05 00 21 59	CC	Apollo 8, Houston. Go.
05 00 22 09	CC	Apollo 8, Houston. Go.
05 00 22 14	LMP	Roger. About this RAD output temp: does your telemetry show that it happened all of a sudden?
05 00 22 20	CC	That's affirmative, Bill.
05 00 22 25	LMP	Okay. I'm on malfunction 23, step 2. It looks to me like there is a small possibility we might be boiling, but I doubt it. So you just want to hop over to step 4 and consider that a closed case.
05 00 22 48	CC	Roger. We consider it closed.
05 00 25 25	CC	Apollo 8, Houston.
05 00 25 31	CDR	Go ahead, Houston.
05 00 25 33	CC	Roger. Frank, all of your primary loop temperature readings look just fine. Your EVAP IN temperatures are normal and indicate you are getting normal mixing.
05 00 25 47	CDR	Okay. Thank you.
05 00 27 44	CC	Apollo 8, Houston.
05 00 27 48	CDR	Go ahead, Houston. Apollo 8.
05 00 27 50	CC	Roger. For the P23 attitude that you are in right now, your quad tank temperatures are better than we expected. We're still monitoring, and it's looking good.
05 00 28 05	CDR	Thank you. After we complete this, do you want us to return to the PTC attitude? Is that correct?

05 00 28 15	CC	That is affirmative, Frank.
05 00 28 19	CDR	Would you have someone get up the gimbal angles for us to point the X-axis at the earth at the TV time, please?
05 00 28 25	CC	Wilco.
05 00 28 59	CDR	Also, Jerry, I would like to know our range and velocity at that time.
05 00 29 05	CC	Roger, Frank. You want the range and velocity at TV time.
05 00 29 11	CDR	Right.
05 00 33 33	CC	Apollo 8, Houston.
05 00 33 36	CDR	Go ahead, Houston. Apollo 8.
05 00 33 39	CC	Roger. At 128 hours, your altitude is 97 413, your velocity is - -
05 00 33 48	CDR	Stand by just a minute.
05 00 33 49	CC	Okay.
05 00 33 53	CDR	At 128 hours, you say?
05 00 33 55	CC	Roger. That's TV time.
05 00 34 01	CDR	Okay.
05 00 34 02	CC	Your altitude is 9 413; velocity is 6072; roll is 1 degree, pitch is 58, yaw 0.
05 00 34 25	CDR	Thank you.
05 00 34 26	CC	You are welcome.
05 00 34 35	CC	I just got a newspaper, Frank. I will go through it and pick out the news items for you.

05 00 34 40	CDR	Good. That will be great. We're just eating breakfast.
05 00 34 45	CC	How are you having your eggs this morning?
05 00 34 50	LMP	Bacon. All except Lovell. He's having eggs Benedict.
05 00 34 59	CC	It figures.
05 00 35 05	LMP	That Timber Cove crew, you know, they -
05 00 35 09	CC	That's the gourmet crowd.
05 00 35 17	CMP	Silk-stocking set.
05 00 35 20	CDR	Jerry, in doing these P23's, we were just about over Africa most of the time. At least, it was in view; nice weather over there this time of year.
05 00 35 29	CC	Roger. You want to go down there?
05 00 35 34	CDR	Do a little hunting.
05 00 42 43	CDR	Jerry, Jim Lovell just checked the P30, P21, and says you are right, 97 800 miles.
05 00 42 54	CC	Roger. Thank you, Jim.
05 00 43 00	CC	We ought to have these computers flight qualified in another couple of missions.
05 00 43 08	CDR	Yes.
05 00 43 50	CMP	Houston, Apollo 8.
05 00 43 51	CC	Apollo 8, Houston. Go.
05 00 43 53	CMP	Roger. Was MCC 6 determined for exactly 122 hours, when you came up with that six-tenths of a foot per second?

05 00 44 21	CC	Roger. Jim, at exactly 122 we were figuring 0.5.
05 00 44 27	CMP	Roger. I'll try it again now at the same time using the P37 with MA. The last time we did it, before the last sightings, I got 2 feet per second. I'm going to see what I come up with this time.
05 00 44 39	CC	Roger.

END OF TAPE

05 00 52 59	CC	Apollo 8, Houston.
05 00 53 19	CC	Apollo 8, Houston. Over.
05 00 53 21	CDR	Go ahead, Houston. Apollo 8.
05 00 53 24	CC	Apollo 8, this is Houston. We are ready for you to start your waste water dump anytime now. Could we have a crew status report?
05 00 53 33	CDR	You may, we had a good night sleep. Everyone slept at least 7 hours yesterday, and we have just finished breakfast, drunk a lot of water, and I think we are in very good shape; just used the exerciser.
05 00 53 54	CC	Roger, Frank.
05 00 53 55	CDR	What would you like to know about?
05 00 54 02	CC	That's about it. Are you ready for some morning news?
05 00 54 04	CDR	Yes.
05 00 54 07	CC	Okay. There is really not a whole lot in the news this morning. Things are kind of quiet. I guess the biggest news is the accident rate - the holiday deaths - which is certainly not very pleasant news, but we had 233 people killed nationally, and 9 of them were in Houston on Christmas Eve, and Christmas. In the world news, the families made the news again. This is Associated Press: "The families of Apollo 8 crew sent a Christmas message to Navy Commander Lloyd

Bucher, Captain of the USS Pueblo crew, released this week by North Korea. The message, addressed to Commander and Mrs. Bucher, at San Diego Navy hospital read 'You have been in our thoughts and our prayers. Your reunion has brought great joy into our heart this Christmas day. Our best to you personally and to all of the families under your command'." And it was signed "Families of the crew of Apollo 8." Space officials said that the message had been suggested and written by Mrs. Frank Borman.

05 00 55 15 CDR Thank you.

05 00 55 16 CC Let see. Elsewhere in the national news, the newlyweds, David and Julie Eisenhower, came away from their secret honeymoon hideaway to have Christmas dinner with President-elect Nixon and the family. In New York city, the world's busiest harbor was reduced to almost complete inactivity Christmas day, due to a 5-day old longshoreman strike and a rare hiatus in shipping schedule. No ships arrived or left the harbor. Ferries, running on reduced holiday schedule, provided the only marine activity.

05 00 56 01 CC Here is an interesting little feature item that is kind of good to hear. It seems that up in Ann Arbor, Michigan, they have a new youth gang.

It's called the Gilnet Gang. It roams the streets of Ann Arbor, acting in secret, and sometimes by-passing the law. They call themselves the Guerillas for Good. Some of the things they have done is, painted a bridge that was covered with obscenities. They painted it one night. A condemned house with - it's popular with neighborhood children, but dangerous, was boarded up. Downtown planters unfilled because of a debate over which group was responsible, business or government, were filled with flowers. A hedge, thought to be hampering vision, at busy intersection was trimmed, and the owner was angered. Trash along a portion of the Huron River was picked up. Members of the gang are anonymous teenagers who ask for no individual recognition. Their aim is to slice red tape, to get things - good things in their opinion - done. The organization has a faint religious overtone. It's sort of an ecumenical group, said an assistant professor at the University of Michigan who acts as an informal sounding board for the gang's ideas. The name is from St. Peter, the Fisherman's Net. And it is remote enough not to be identified with any particular church. There is a thread of Robin Hood running through this thing, said their

teacher, who also prefers to remain anonymous. A lot of their activities are extra-legal. When the system bogs down, they directly administer good, rather than go through the red tape channels. The gang is made up of about 55 high-school kids, boys and girls, and there's another 40 or 50 who belonged to the gang before they graduated. The idea for the gang evolved from a trip to Detroit slum area, where a church group - youth group noted the way that street gangs operate. They were impressed with the methods of operation and decided to organize for somewhat different reasons. "It was the chance to do things for the pure sake of giving," said the gang's advisor.

05 00 58 18 CC That is about it as far as the world and national news and the features is concerned. On the sport page, Hank Stram of the Kansas City Chiefs was named as the AFL coach of the year. This is the second time for him in three seasons. The voting was done by an Associated Press panel of 30 sports writers and sportscasters, three from each city. The nearest one to him was Weeb Ewbank. Other coach's that received votes were Sid Gilman of San Diego, and Lou Sabin of Denver. As for the Shriners College All Star game yesterday, the

North cooled the South 3 to 0. Michigan State's Dick Berlinsky booted a 23 yard field goal in the first quarter and it was all the North needed to beat the South Wednesday, in the Shrine's College All Star football game. Let's see, I guess the interesting things about this are that first downs, North 19, South 16; rushing, North 214, South 169; passing was North 96, South 109. So, all in all, it looks like they were evenly matched. Looks like Parseghian and his Notre Damers weren't as strong as ole Howard was worrying about.

05 00 59 52 CDR Roger. We are dumping the water now, Jerry.

05 00 59 54 CC Okay, Frank.

05 00 59 59 CC For the big Astro Blue Bonnet game, the big basketball clasic followed by the Astro Blue Bonnet Bowl in the Dome: SMU and Oklahoma have arrived. They are getting ginned up for the big game. Doesn't say here which are favored. I will look that up and let you know later, if one is favor here. The Davis Cup is underway now, down in Australia, and the US is bidding to recapture that again, and apparently we're favored to recapture the supremecy today. Another item in the news, is O. J. Simpson; he was named player of the year in college football for the second consecutive season by the Walter Camp Football

Foundation. Woody Hayes, as I told you yesterday, was named coach of the year.

05 01 01 01 CDR Roger.

05 01 01 13 CC Well, I guess that is about it Frank.

05 01 01 17 CDR Thank you, Jerry. I appreciate that.

05 01 01 27 CMP Jerry, this is Jim. We concur on that midcourse 6.2 of a foot per second - is what we get.

05 01 01 33 CC Real fine, Jim.

05 01 01 41 CC Do you just want to turn off your radios and come back without us?

05 01 01 49 LMP No. We can't read out the amazing erasable memory if we have to go into PROGRAM 01 again. (Laughter)

05 01 01 56 CMP I'd tried to get us back on the launch pad a little bit earlier.

05 01 03 55 CC Frank, one other little item in the news here, I thought might be interesting is - . Stand by.

05 01 04 15 CC Apollo 8, Houston.

05 01 04 18 CDR Go ahead. You are loud and clear.

05 01 04 20 CC Okay. I got interrupted there for a minute. Bob Hope is back out in Viet Nam again with his troups, doing a great job as usual. One little name in the news story here is from the USS New Jersey. Bob Hope joked from atop of a hugh gun turret yesterday - or Wednesday - to delight the 1500 men aboard the battle ship New Jersey on its 20th

Christmas entertaining US troops abroad. Hope and his 27 member troop entertained the New Jersey seamen after attending a Christmas mass aboard the carrier Hancock, both off Viet Nam. "This must be the biggest Cris Craft in the world," Hope told the seamen. "It looks like Wake Island with a rudder." "I think it was nice of them to take the ship out of mothballs just to give me a 21-gun salute," he said. Hope joked while standing on one of the ships 16 inch gun turrets. The sailors were particularly impressed by a squad of long legged girls who came aboard with Hope including Actress Ann-Margaret and Miss World.

05 01 05 28	CDR	Did you say that was his 20th trip over there at Christmas time, or overseas at Christmas time?
05 01 05 33	CC	That's right, it's the 20th time he has been over - overseas for Christmas with the troops.
05 01 05 41	CDR	He's as old as Jack Benny.
05 01 05 43	CC	Roger. Hey, you can turn off the water dump now.
05 01 05 44	CDR	We're in the process, or as we say in the aerospace business: that's in work.
05 01 05 58	CC	Roger. You do good work.
05 01 06 17	CC	That other aviator that's going around the world, Max Conrad with his light plane - he spent Christmas day in the Antarctics - at Puento Aranes in Chili; he's waiting for good weather so he can

continue his flight down to the South Pole. He hopes to get around the world. He is going around both Poles, and he's going to fly from Palmer to Byrd, from Byrd to the South Pole, and then return home to the United States by way of New Zealand, Australia, and Hawaii.

05 01 06 50	CDR	Brother. He had better take some No Doze with him.
05 01 06 53	CMP	I tried to talk Frank into the same trip.
05 01 07 21	LMP	You can give him a weather report from Apollo 8. The South Pole was really clobbered - or at least it was the other day.
05 01 07 24	CC	Roger.
05 01 07 44	CC	I don't imagine there are many alternates down there.
05 01 07 49	CDR	No, I don't think so.
05 01 07 52	CDR	We have some pretty clear weather up here.
05 01 07 55	CC	No fog, huh?
05 01 07 59	CDR	Not outside.
05 01 08 06	CDR	Actually, it's snowing outside right now with that waste water dump that Bill just did.
05 01 08 11	CC	Roger. Does it look a little bit like Christmas?
05 01 08 15	CDR	Right.
05 01 08 29	CDR	Jerry, do you have a decision about what we are going to do about this next midcourse?
05 01 08 39	CC	No, Frank. We don't need it.
05 01 08 44	CDR	Okay. I just wanted to make sure officially we'll scrub MCC 6?

05 01 08 49	CC	Affirmative.
05 01 08 53	CDR	I guess - Jim said that was already official. I was sleeping at the time. I didn't hear it.
05 01 08 57	CC	Okay. Frank, by the way, how do you feel about your EMS now? You feel like you've got all the answers to the little funnies you saw earlier?
05 01 09 08	CDR	Yes. The answer is don't turn it into AUTO fast. It seems to be very sensitive to jerks, or separation.
05 01 09 16	CC	Okay, you, you figure it's all pretty much just a switch throwing anomaly and if you play it by the numbers and then slow and deliberate you will be okay?
05 01 09 25	CDR	Yes. Ken, I'm getting razzed up here because I said it was sensitive to jerks.
05 01 09 33	CC	(Laughter) We thought of that, too, down here.
05 01 09 37	CDR	Yes, I figured you did.
05 01 09 39	CMP	I told Ken last night at separation after TLI, when we separated from the S-IVB, we got a nice bang out of the pyros and the EMS jumped over 100 feet per second.
05 01 11 20	CDR	Jerry, do you want to - I've got it in the flight plan to start charging our battery B. Do you want that started at 100 now also?
05 01 11 29	CC	Affirmative, Frank.
05 01 11 33	CDR	Okay.

05 01 11 38	CC	Frank, we expect it will take about 3 or 4 hours.
05 01 11 40	CDR	We're starting it.
05 01 11 44	CC	Okay.
05 01 11 58	CDR	And we're happy to report the earth is getting larger.
05 01 12 01	CC	Roger, that's comforting. Looks like you are going to make earth instead of Venus, huh?
05 01 12 08	CDR	Right.
05 01 13 08	CC	Apollo 8, Houston. Your friendly guidance officer has got a LM vector update for you and a CNC time update. Over.
05 01 13 17	CDR	Okay. We'll go to POO. POO in ACCEPT.
05 01 13 29	CC	Roger.
05 01 19 56	CC	Apollo 8, this is Houston. The updates are complete. The computer is yours. You can go to BLOCK.
05 01 20 05	CDR	Roger; BLOCK.
05 01 20 50	CDR	Houston. We won't transfer that state vector, since we are not going to do that MCC. Is that all right?
05 01 20 58	CC	Okay. Real fine, Frank.
05 01 21 03	CDR	Roger.
05 01 22 53	CDR	Houston, Apollo 8.
05 01 22 56	CC	Apollo 8, Houston. Go.
05 01 23 00	CDR	We are proceeding with the chlorination.
05 01 23 03	CC	Roger.

05 01 56 27	CC	Apollo 8, Houston. BIOMED switch to CENTER, please.
05 01 56 34	CDR	Ten, nine, eight, seven, six, five, four, three, two, one.
05 01 56 40	CDR	MARK.
05 01 56 41	CC	Roger.
05 01 56 45	CMP	Old joke.

END OF TAPE

05 02 30 56	CDR	Houston, Apollo 8. How do you read?
05 02 31 00	CC	Apollo 8, Houston. Loud and clear.
05 02 31 03	CDR	Okay, thank you, we are starting the P23.
05 02 31 09	CC	Roger, Frank.
05 02 32 41	CC	Apollo 8, Houston.
05 02 32 44	CDR	Go ahead.
05 02 32 45	CC	Apollo 8, this is Houston. We have lost all CNC data on you. The last data we had showed a high and middle gimbal angle. Over.
05 02 32 56	CDR	No. I'm fine. How come you lost those CNC data.
05 02 33 01	CC	I think maybe it was just your movement - movement out of PTC.
05 02 33 07	CDR	I see, fine. Thank you, it was high. I was watching it though.
05 02 33 11	CC	Okay. We have data now.
05 02 50 33	CDR	Houston, Apollo 8.
05 02 50 36	CC	Apollo 8, Houston.
05 02 50 39	CDR	We are noticing our quad A helium tank is starting to go up again. You got any ideas on that.
05 02 50 45	CC	Yes. We are watching it to, Frank. So far, it's still okay and we are talking about it.
05 02 50 54	CDR	Okay.
05 02 51 26	CC	Apollo 8, Houston.
05 02 51 30	CDR	Go ahead.
05 02 51 31	CC	Roger, Frank, this helium tank in quad A - it looks like we may have bothered you up unnecessarily on

this thing. It appears to be no problem as best as we can tell. We got a few of the minds together talking about it, and it's been down rated quite a bit. Also there - the folks down here monitoring the P23 suspect that Jim is shooting on star number 22 rather 02, so he may be having some problems.

05 02 52 01	CMP	Oh no. We've changed; we are on star 02 on the moon.
05 02 52 07	CC	Okay.
05 02 52 25	CC	Frank, I may have to add some names to my chicken list.
05 02 52 31	CDR	About what?
05 02 52 33	CC	Helium tank A, quad A.
05 02 52 37	CDR	Roger. I just don't want to be the one that proves the fracture mechanics people are right.
05 02 52 45	CC	Roger, Frank.
05 02 52 54	CDR	This attitude is going to have us right square into the sun, too.
05 02 53 00	CC	Roger.
05 03 22 08	CC	Apollo 8, Houston.
05 03 22 13	CDR	Go ahead.
05 03 22 14	CC	Apollo 8, Houston. We are going to need some data from your past P23 marks. We missed some items, and so don't put it away and when you finish this next P23 we'll get it all together.

05 03 22 27	CDR	Okay.
05 03 22 28	CC	Roger. Got some information for you on this PTC that we'll be going to right after this next P23 exercise. We'd like you this time to try the nose north attitude, that's pitch of 180, and a yaw of 315, and also we'd like to give another look at this mode free type of PTC and we think maybe we'll get a little bit of spin stabilization if we try it at 0.3 degrees per second on the roll rate rather than 0.1. So if you figure on doing that at 124:30 we'll see what kind of information we can get out of it.
05 03 23 14	CDR	Okay. You know what I think of that, don't you? I'll be happy to do it, but I think it's playing games.
05 03 23 22	CC	Roger, Frank, you're burning right now 1.4 pounds per hour with attitude hold in pitch and yaw. We're kind of interested to see if 0.3 degrees per second will reduce your RCS usage due to spin stabilization.
05 03 23 40	CDR	Yes, I know. I predict that it will not.
05 03 23 45	CC	Okay.
05 03 23 48	CDR	Jerry, I'm a little concerned about the temperature. We're getting kind of warm in here, and also the evaporator outlet temperature is up around 45 degrees. Do you have any trend that

we're getting less efficient operation of the radiators?

05 03 24 15 CC Frank, EECOM says everything looks nominal down here. You might try a change in your cabin temperature heat exchanger there.

05 03 24 26 CDR No, we don't have the fans on, but what we have done is put up a window shade. That seems to help it. We've been getting a lot more sun in the cabin this way.

05 03 24 35 CC Roger. We'll keep a sharp eye on things and keep you posted.

05 03 24 40 CDR Roger. I don't mind playing games because you guys have been very nice in the five and a half days. If you want to play games in the next half hour, we'll play.

05 03 24 48 CC Roger, Frank.

05 03 25 09 CDR Jim is trying this set with the eye relief optics so we can give you some information on that.

05 03 25 15 CC Okay.

05 03 25 49 CDR I think it would be very difficult to extrapolate anything that you are getting out of this bit business to a LM-command module combination, because the spacecraft handles quite a bit different just with the change of fuel load, including the difference in drifting off and roll.

05 03 26 07	CC	Roger, Frank. We just got finished discussing that, too. We agree with your point of view on that one. I think this is more of a curiosity thing than anything at all.
05 03 26 18	CMP	I think it's fine. No sweat. We don't have anything else to do here for about another 10 hours.
05 03 26 20	CC	Okay.
05 03 26 27	CMP	Jerry, what I'm kind of curious about is the fuel usage. Now with P23 and what we were doing, we have a lot more fuel.
05 03 26 57	CC	Jim, we'll take a look at that fuel usage bit. Right now, the trend looks like it is getting better as we would expect with a lighter weight.
05 03 27 10	CC	We'll try to get a little more definitive for you here.
05 03 27 14	CMP	Okay.
05 03 27 15	CDR	We really - we shouldn't complain about the fuel usage on that SPS engine though, because we're sure getting a lot of miles per gallon out of it.
05 03 27 27	CC	Roger, Frank. Frank, we'll enter you in the Shell road test on that.
05 03 27 29	CDR	Yes, we don't have any TCP in it, or what is that, TCP? Yes. That's the problem. If we'd had that, we would have probably used only half the fuel.

05 03 27 47	CC	Oh, you mean Platformate?
05 03 27 50	CDR	That's right, Platformate.
05 03 28 02	CDR	If you will get the people to spread out one of those banners around the target area, we'll try to break it, you know, and coast through it.
05 03 28 11	CC	Okay. We'll call some of the paper companies and see if they can find a roll big enough.
05 03 28 17	CDR	It won't take a big roll, just about 30 feet.
05 03 28 21	CC	Roger.
05 03 28 26	CMP	Onboard NAV.
05 03 28 36	CDR	Tell the doctors that we put William to sleep.
05 03 28 41	CC	Roger. You won't leave any scars will you?
05 03 28 47	CDR	No. No, he's got his tape recorder with him.
05 03 29 10	CDR	Bill said to call Valerie and have her to rewind the tape recorder - his tape recorder at home.
05 03 30 55	CC	Apollo 8, Houston.
05 03 30 57	CDR	Go ahead.
05 03 30 58	CC	I hate to tell you this, Frank, because Jim probably won't even be able to wear his COMM carrier anymore, but that last set of marks put your state vector right on top of the MSFN state vector.
05 03 31 10	CMP	Come off that, Jerry. Come on; you promised.
05 03 31 14	CMP	I'll get you that bottle of brandy when I get home, Jerry.

05 03 31 19	CDR	Maybe we can get him to go to PROGRAM 01 again today, too.
05 03 31 24	CC	Roger. That sounds good.
05 03 32 04	CC	Apollo 8, Houston. Also, on the flight plan for 124:30, we would like for you to run an O_2 purge on the fuel cells.
05 03 32 17	CDR	Okay.
05 03 33 24	CDR	Hey, Jerry. We were going over the checklist on entry here, you know?
05 03 33 28	CC	Roger, Frank.
05 03 33 30	CDR	I've got a question. Is John Harpold around?
05 03 33 40	CC	Roger. He is listening.
05 03 33 44	CDR	John, I can't remember. Is the lift vector up head-down or - -
05 03 33 59	CMP	Jerry, I'm beginning to worry up here.
05 03 34 03	CC	Roger. It depends on which way your nose is pointing.
05 03 34 08	CDR	Touché.
05 03 34 16	CDR	You might note for the people at MIT that the next series of stars will be shot by the master navigator with a space helmet on and long eye relief eyepieces.
05 03 34 32	CC	Roger. That ought to cut his speed down a little bit.
05 03 34 36	CDR	Right.

05 03 35 25	CC	Frank, while you are talking about the entry checklist, this cold soak - have you decided exactly where you want to do it there prior to entry?
05 03 35 37	CDR	Well, I understood that EECOM talked that over with Bill, and we do it 1 hour prior to entry. We'll do it wherever you say is the best.
05 03 35 43	CC	Okay. One hour is fine. It's just a matter of finding time in the time line to do it.
05 03 35 50	CDR	I think we can initiate it 1 hour before SEP.
05 03 35 53	CC	Okay. Fine. Sounds like a winner.
05 03 37 06	CMP	Really got all zeroes with that helmet on.
05 03 37 09	CC	Roger. We just noticed that.
05 03 37 32	CDR	Jim's going to leave the helmet off now for the rest of them, I think; it gets a little anoxic in there. These helmets don't have face plates, and we have a difficult time breathing with that on.
05 03 37 44	CC	Roger.

END OF TAPE

05 04 02 26	CDR	Okay. Jerry, that completes the P23. Did you have something else you want us to do now? You wanted to check on something from the last SEP.
05 04 02 37	CC	Roger, Frank. We need to get some numbers that we weren't able to copy down here. Stand by just one. Frank, on your first P23, we missed three marks on star number 2. We missed mark number 3 trunnion.
05 04 03 07	CDR	Okay. Three trunnion is 05650.
05 04 03 11	CC	Okay, 05650. Then star number 1, mark 2. We need the trunnion on that one, too.
05 04 03 21	CDR	04216.
05 04 03 25	CC	And on star number 1, mark 3, the DELTA-R and DELTA-V.
05 04 03 31	CDR	DELTA-R is 00006, DELTA-V 00001.
05 04 03 38	CC	Roger. Four balls 6 and four balls 1. Okay. Frank, your PTC attitude is pitch 180, yaw 315, and roll rate 0.3 degrees per second. The reason for wanting to point it north is not because we are concerned at all about any changes due to venting, there's been, as we can tell, no effects on your trajectory by venting. We just want to try out that direction on it.
05 04 04 16	CDR	That's fine. We are going to stay in for about two more seconds while Jim takes the pictures through the sextant for the optics people.

05 04 04 24	CC	Okay, Frank. And then, also, we are looking for a fuel cell O_2 purge when you get a chance.
05 04 04 30	CDR	That's right. At - I got the word now; it's supposed to be at 124:30.
05 04 04 37	CC	Right.
05 04 04 39	CDR	Okay. We'll do it.
05 04 11 14	CC	Apollo 8, Houston.
05 04 11 17	CDR	Go ahead.
05 04 11 18	CC	Roger. For your P37 that's coming up that you are going to run, use a midcourse 7 time of 144:46. Also just a little note here, the trajectory is looking so good, it looks like you can make the corridor without even making a midcourse 7.
05 04 11 37	CDR	Roger. 144:46 for the P37.
05 04 11 44	CC	Affirmative.
05 04 11 47	CDR	Thank you.
05 04 13 40	CMP	Jerry, this is Jim.
05 04 13 43	CC	Go ahead, Jim.
05 04 13 46	CMP	We are going to set this up for the normal PTC mode for a few minutes until Frank gets through with the - another step of the call.
05 04 14 01	CC	Roger, Jim. When the time is auspicious, would you shift the BIOMED switch over to left side?
05 04 14 09	CMP	I think we ought to shift it over right now.
05 04 14 12	CC	Okay. No, they say hold it up for a little while.